

Abstract of the Disclosure

5 This application relates to a hybrid power supply apparatus
comprising a fuel cell and an energy storage device for use in off-road
electric vehicles, such as lift trucks. The apparatus is a substitute for
conventional lead acid batteries and is sized to fit within a conventional lift
truck battery receptacle tray. The fuel cell and fuel processor systems are
10 designed to meet the average load requirements of the vehicle, while the
batteries and power control hardware are capable of responding to very
high instantaneous load demands. The invention has a similar electrical
interface as conventional battery systems and does not require vehicle
modification. The apparatus is air-cooled to ensure that the hybrid power
15 components operate within a preferred temperature range and to maintain
the external surfaces of the apparatus and exhaust gases within safe
temperature limits. Apart from vehicular applications, low power hybrid
fuel cell products as exemplified by the present invention may also find
application in uninterruptable power supply systems, recreational power,
20 off-grid power generation and other analogous applications.